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Andrei Ghetie

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EXAMINER

BURGESS, BARBARA N

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/706,796	Applicant(s) GHETIE ET AL.
	Examiner BARBARA N. BURGESS	Art Unit 2457

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to amendment filed December 22, 2008. Claims 1-25 are presented for further examination.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Cohen et al. (hereinafter "Cohen", US Patent 7,050,396 B1).

As per claims 1, 15, 24, Cohen discloses a system and method for managing quality of service (QoS) for traffic flows generated by a plurality of hosts separated by one or more networks wherein at least one of the networks is enabled with a set of traffic classes, said system comprising:

a services manager (column 4, lines 15-20, column 6, lines 30-35),

a middleware module at at least one of the plurality of hosts, wherein said middleware module at the one host receives a QoS request for a traffic flow the host generates and conveys the QoS provisioning request to the services manager upon receiving the QoS request for the traffic flow (column 6, lines 35-45, column 8, lines 19-25);

wherein said services manager receives the QoS provisioning request from said middleware module, obtains a DSCP (Differentiated Services Code Point) value for the traffic flow if the networks the traffic flow traverses can support the flow, and if a DSCP value is obtained, conveys the obtained DSCP value for the traffic flow to said middleware module (column 7, lines 13-20, 33-40, column 8, lines 8-16);

wherein said middleware module uses the obtained DSCP value received from the services manager to mark the DSCP field of packets of the traffic flow (column 10, lines 1-10, 30-40).

As per claim 2, Cohen discloses the system of claim 1 wherein the services manager, upon receiving the QoS provisioning request, determines the networks the traffic flow traverses, and as part of obtaining the DSCP value further determines if for each traffic class enabled network the traffic flow traverses there is sufficient bandwidth in a traffic class to support the traffic flow (column 7, lines 35-50).

As per claim 3, Cohen discloses the system of claim 1 wherein the QoS request contains an identification of the traffic flow and wherein the middleware module conveys this identification to the services manager as part of the QoS provisioning request (column 8, lines 11-23);

wherein the services manager, upon receiving the QoS provisioning request, determines a default traffic flow characterization for the traffic flow based on the traffic flow identification, and uses the default traffic flow characterization to obtain a DSCP

value by determining if the networks the traffic flow traverses can support the flow based on the characterization (column 9, lines 45-60).

As per claim 4, Cohen discloses the system of claim 3 wherein if the services manager cannot obtain a DSCP value based on the determined default traffic flow characterization, the services manager determines an alternate traffic flow characterization for the traffic flow based on the traffic flow identification, and uses the determined alternate traffic flow characterization to obtain a DSCP value by determining if the networks the traffic flow traverses can support the flow based on the alternate characterization (column 7, lines 25-37, column 10, lines 33-49).

As per claim 5, Cohen discloses the system of claim 1 further comprising a policy enforcement module at least one of the plurality of hosts, wherein the one host containing the policy enforcement module generates a second traffic flow (column 6, lines 35-50);

and wherein said middleware module receive a QoS request for the second traffic flow and conveys a QoS provisioning request to the services manager upon receiving the QoS request for the second traffic flow (column 7, lines 22-37);

said services manager obtains a DSCP value for the second traffic flow if the networks the second traffic flow traverses can support the flow, and if a DSCP value is obtained, conveys the obtained DSCP value for the second traffic flow to the policy enforcement module (column 7, lines 45-67);

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wherein said policy enforcement module uses the obtained DSCP value received from the services manager to mark the DSCP field of packets of the second traffic flow (column 9, lines 44-58).

As per claims 6 and 25, Cohen discloses the system of 5 and 24 wherein the services manager further conveys, when a DSCP value is obtained for the second traffic flow, packet policing and packet shaping instructions to the policy enforcement module (column 10, lines 19-28);

wherein the policy enforcement module uses the packet policing and packet shaping instructions received from the services manager to police and shape the packets of the second traffic flow (column 10, lines 46-60).

As per claim 7, Cohen discloses the system of claim 1 further comprising a policy enforcement module at the one host (column 6, lines 28-33);

wherein when a DSCP value is obtained for the traffic flow, said services manager further conveys packet policing and packet shaping instructions to the policy enforcement module (column 7, lines 15-38);

the policy enforcement module uses the packet policing and packet shaping instructions received from the services manager to police and shape the packets of the traffic flow (column 10, lines 45-67).

As per claims 8, 19, Cohen discloses a services manager and method for managing quality of service (QoS) for traffic flows generated by a plurality of hosts interconnected

by one or more networks wherein at least one of the networks is enabled with a set of traffic classes, said services manager comprising:

means for receiving a QoS provisioning request for any given traffic flow (column 7, lines 33-48);

means for determining traffic attributes for the given traffic flow (column 7, lines 45-59);

means for obtaining a DSCP (Differentiated Services Code Point) value for the given traffic flow based on whether the networks the traffic flow traverses can support the flow given the determined traffic attributes (column 8, lines 20-38);

means for conveying an obtained DSCP value to a first of two hosts when the traffic flow is from a first to a second host (column 8, lines 44-57).

As per claims 9, 20, Cohen discloses the services manager and method of claims 8 and 19, wherein the conveying means further conveys the obtained DSCP value to the second host when the traffic flow is from the second to the first host (column 9, lines 13-27).

As per claims 10, 21, Cohen discloses the services manager and method of claims 8, 19, further comprising a topology database for determining which of the one or more networks the given traffic flow traverses, and wherein the obtained DSCP value corresponds to a determined network (column 7, lines 49-59).

As per claim 11, Cohen discloses the services manager of claim 8 wherein the DSCP obtaining means comprises a network control module for interfacing one or more network control systems wherein each network control system corresponds to a network

that has an enabled set of traffic classes and wherein each network control system performs admission control for that network by determining if a given traffic class corresponding to the determined traffic attributes has sufficient available bandwidth to support the traffic flow and, if so, returns a DSCP value for that traffic class (column 7, lines 33-50, column 8, lines 22-38).

As per claim 12, Cohen discloses the services manager of claim 11 wherein the DSCP obtaining means further comprises one or more SLA (service level agreement) control modules wherein each SLA control module corresponds to a network to which the plurality of hosts have a service level agreement for an enabled set of traffic classes and wherein each SLA control module performs admission control over the service level agreement for its corresponding network by determining if a given traffic class within the service level agreement and corresponding to the determined traffic attributes has sufficient available bandwidth to support the traffic flow and, if so, returns a DSCP value for that traffic class (column 7, lines 40-67).

As per claims 13, 22, Cohen discloses the services manager and method of claims 8, 19, wherein the traffic attribute determining means comprises a default QoS database with a plurality of default traffic flow characterizations, and wherein the traffic attribute determining means uses the database to determine a default traffic flow characterization for the given traffic flow and converts the determined default traffic flow characterization to the traffic attributes (column 7, lines 44-66).

As per claims 14, 23, Cohen discloses the services manager and method of claims 13, 22, wherein the traffic attributes determining means further comprises an alternate QoS database with a plurality of alternate traffic flow characterizations (column 7, lines 50-67);

wherein the traffic attribute determining means uses the alternate QoS database to determine an alternate traffic flow characterization and thereby alternate traffic attributes (column 9, lines 45-58);

wherein if the DSCP obtaining means cannot determine a DSCP value given the determined traffic attributes, said obtaining means obtains a DSCP value for the given traffic flow based on whether the networks the traffic flow traverses can support the flow given the determined alternate traffic attributes (column 9, lines 22-40).

As per claim 16, Cohen discloses the system of claim 15 further comprising a policy enforcement module for policing and packet shaping the transmitted packets corresponding to one or more of traffic flows generated by the host (column 10, lines 12-23).

As per claim 17, Cohen discloses a system at a host for managing quality of service (QoS) for a plurality of traffic flows traversing one or more networks wherein at least one of the networks is enabled with a set of traffic classes, said system comprising:
a signaling client for generating QoS provisioning requests for one or more of the plurality of traffic flows (column 8, lines 1-25);

a middleware control module for receiving the QoS provisioning requests and for conveying the requests to a services manager intended for determining which of the one or more networks any given traffic flow of the plurality of traffic flows traverses and for obtaining a DSCP (Differentiated Services Code Point) value that corresponds to a determined network that is traffic class enabled and is the first network the any given traffic flow traverses (column 9, lines 13-35);

a policy enforcement module for receiving the determined DSCP values for the one or more of the plurality of traffic flows that are generated by the host wherein said policy enforcement module uses the DSCP values to mark the transmitted packets corresponding to the one or more of the plurality of traffic flows that are generated by the host (column 9, lines 38-50).

As per claim 18, Cohen discloses the system of claim 17 wherein the policy enforcement module further configures the host to perform packet policing and packet shaping of the transmitted packets corresponding to the one or more of the plurality of traffic flows that are generated by the host (column 6, lines 35-49).

Response to Arguments

3. Applicant's arguments filed have been fully considered but they are not persuasive.

The Office notes the following argument(s):

(a) The DSCP value is neither obtained based on if/whether the networks the traffic flow traverses can support the flow nor obtained to correspond to a determined network that is traffic class enabled.

In response to:

(a) Cohen teaches packets having a one-octet differentiated services (DS) field, which is assigned a differentiated services codepoint (DSCP) value between 0 and 63. Devices that are DS compliant apply a particular per-hop forwarding behavior to packets based on their DS fields. In a DS environment, devices color each packet for a particular flow with a specific DSCP value based on the QoS policies. Such coloring involves loading the DS field with a particular DSCP value and the corresponding forwarding behavior to the packet is based on the DSCP value.

A network may be configured to run hop behaviors such as Best Effort, Expedited Forwarding, and Less than Best Effort. A QoS policy is selected that colors packets with the DSCP value for the Best Effort, Expedited Forwarding, and Less than Best Effort. According to what the network can perform, a DSCP value is given to the packet to execute the policy for the flow (column 3, lines 41-50, column 4, lines 1-21, column 6, lines 35-55, column 7, lines 22-32).

Therefore, Cohen indeed discloses the DSCP value is obtained based on if/whether the networks the traffic flow traverses can support the flow and correspond to a determined network that is traffic class enabled.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BARBARA N. BURGESS whose telephone number is (571)272-3996. The examiner can normally be reached on M-F (8:00am-4:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Barbara N Burgess/
Examiner, Art Unit 2457
March 4, 2009

/ARIO ETIENNE/
Supervisory Patent Examiner, Art Unit 2457